

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Ulrich Neumann et al. Art Unit: 2621
Serial No.: 10/676,377 Examiner: Unknown
Filed : September 30, 2003
Title : AUGMENTED VIRTUAL ENVIRONMENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Applicants call attention to the attached Information Disclosure Statement and documents listed on form PTO-1449.

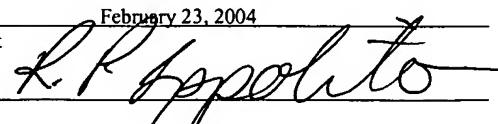
This filing is being made before the receipt of a first Office action on the merits. No fee is required.

The documents are in the English language; hence no concise explanation is necessary per Rule 98(a)(3).

Consideration of the foregoing and enclosures plus the return of a copy of the enclosed form PTO-1449 with the Examiner's initials in the left column per MPEP 609 are earnestly solicited along with an early action on the merits.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

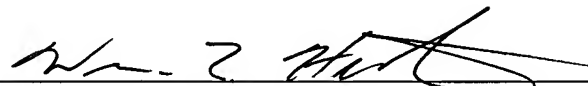
Date of Deposit February 23, 2004

Signature

Roxanne Ippolito
Typed or Printed Name of Person Signing Certificate

Please apply any additional charges or credits to Deposit
Account No. 06-1050.

Respectfully submitted,

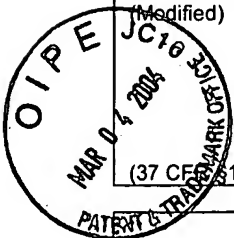
Date: 02/23/04



William E. Hunter
Reg. No. 47,671

Fish & Richardson P.C.
USPTO Customer No. **20985**
12390 El Camino Real
San Diego, CA 92130
Telephone: (858) 678-5070
Facsimile: (858) 678-5099

10369309.doc



Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06666-156001	Application No. 10/676,377
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR 1.98(b))		Applicant Ulrich Neumann et al.	
		Filing Date September 30, 2003	Group Art Unit 2621

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	6,078,701	06/20/2000	Hsu et al.			
	AB	6,269,175	07/31/2001	Hanna et al.			
	AC	6,430,304	08/06/2002	Hanna et al.			
	AD	6,490,364	12/03/2002	Hanna et al.			
	AE	6,512,857	01/28/2003	Hsu et al.			
	AF	6,522,787	02/18/2003	Kumar et al.			
	AG	6,571,024	05/27/2003	Sawhney et al.			
	AH	6,597,818	07/22/2003	Kumar et al.			
	AI	2001/0019621	09/06/2001	Hanna et al.			
	AJ	2001/0036307	11/01/2001	Hanna et al.			
	AK	2001/0038718	11/08/2001	Kumar et al.			
	AL	2001/0043738	11/22/2001	Sawhney et al.			
	AM	2002/0061131	05/23/2002	Sawhney et al.			
	AN	2003/0014224	01/16/2003	Guo et al.			
	AO	2003/0080978	05/01/2003	Navab et al.			
	AP	2003/0085992	05/08/2003	Arpa et al.			

Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AQ							
	AR							

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AS	Bolan Jiang et al., "A Robust Hybrid Tracking System for Outdoor Augmented Reality", Integrated Media Systems Center, University of Southern California
	AT	Joseph R. Spann et al., "Photogrammetry Using 3D Graphics and Projective Textures", IAPRS, Vol. XXXIII, Amsterdam, 2000
	AU	Brett Hall et al., "A Novel Graphical Interface and Context Aware Map for Incident Detection and Monitoring", 9th World Congress on Intelligent Transport Systems, October 2002

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06666-156001	Application No. 10/676,377
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Ulrich Neumann et al.	
		Filing Date September 30, 2003	Group Art Unit 2621

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AV	Ulrich Neumann et al., "Visualizing Reality in an Augmented Virtual Environment", Integrated Media Systems Center, University of Southern California
	AW	R. Azuma, "A Survey of Augmented Reality", Presence: Teleoperators and Virtual Environments. Vol. 6, No. 4, pp. 355-385, 1997
	AX	P.E. Debevec, C.J. Taylor and J. Malik, "Modeling and Rendering Architecture from Photograph: A Hybrid Geometry-and-Image-based Approach", SIGGRAPH' 96, pp. 11-20, 1996
	AY	E. Foxlin, "Inertial Head-Tracker Sensor Fusion by a Complementary Separate-Bias Kalman Filter", IEEE Virtual Reality Annual International Symposium, pp. 184-194, 1996
	AZ	C. Fruh and A. Zakhor, "3D Model Generation for Cities Using Aerial Photographs and Ground Level Laser Scans", IEEE Conference on Computer Vision and Pattern Recognition, 2001
	AAA	R.C. Gonzales, R.E. Woods, Digital Image Processing. Addison-Wesley, 2 nd edition (September 1993), pp. 41-44
	ABB	N. Greene, M. Kass, and G. Miller, Hierarchical Z-Buffer Visibility. SIGGRAPH' 93, pp. 231-238, 1993
	ACC	A. Gruen and R. Nevatia (editors), "Special Issue on Automatic Building Extraction from Aerial Images", Computer Vision and Image Understanding, November 1998
	ADD	P. Haeblerli and M. Segal, "Texture mapping as a fundamental drawing primitive", in M. F. Cohen, C. Puech, and F. Sillion, editors, Fourth Eurographics Workshop on Rendering, pp. 259-266, 1993
	AEE	M. Harville, G. Gordon, and J. Woodfill, "Foreground Segmentation using Adaptive Mixture Models in Color and Depth", Proceedings of the IEEE Workshop on Detection and Recognition of Events in Video, July 2001
	AFF	W. Heidrich and H.P. Seidel, "Realistic, Hardware-accelerated Shading and Lighting", SIGGRAPH' 99, 1999
	AGG	Y. Hsieh, "SiteCity: A semi-automated Site Modeling System", IEEE Conference on Computer Vision and Pattern Recognition, pp. 499-506, 1996
	AHH	R. Jain, R. Kasturi, B.G. Schunck, Machine Vision, McGraw-Hill International Edition, 1995, pp 76
	AII	B. Jiang, U. Neumann, "Extendible Tracking by Line Auto-Calibration," International Symposium on Augmented Reality, pp. 97-103, New York, October 2001
	AJJ	T. Kanade, R. Collins, A. Lipton, P. Burt and L. Wixson, "Advances in cooperative multi-sensor video surveillance", Proc. Of DARPA Image Understanding Workshop, Vol. 1 pp. 3-24, 1998
	AKK	T. Kanade, P. Rander, S. Vedula, and H. Saito, Mixed Reality, Merging Real and Virtual Worlds, Yuichi Ohta, Hideyuki Tamura, ed., Springer-Verlag, 1999, pp. 41-57
	ALL	W. Koller and J. Malik, "Robust multiple car tracking with occlusion reasoning" In Proc. Third European Conference on Computer Vision, May 2-6, pp. 189-196, 1994
	AMM	R. Kumar, H.S. Sawhney, Y. Guo, S. Hsu, and S. Samarasekera, "3D Manipulation of Motion Imagery" Proceedings of International Conference on Image Processing (ICIP'2000), Vancouver, Canada, Sept. 2000
	ANN	S. C. Lee, S. K. Jung, and R. Nevatia, "Automatic Integration of Façade Textures into 3D Building Models with Projective Geometry Based Line Clustering", EUROGRAPHIC'02, 2002
	AOO	U. Neumann and S. You, "Augmented Virtual Environments (AVE): for Visualization of Dynamic Imagery", IEEE Virtual Reality'03, pp. 61-67. Los Angeles, CA, March 2003
	APP	U. Neumann and S. You, "Natural Feature Tracking for Augmented-Reality", IEEE Transactions on Multimedia. Vol. 1, No. 1, pp. 53-64, March 1999

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06666-156001	Application No. 10/676,377
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Ulrich Neumann et al.	
		Filing Date September 30, 2003	Group Art Unit 2621

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AQQ	W. Reeves, D. Salesin and R. Cook, "Rendering Antialiased Shadows with Depth Maps", Computer Graphics, Volume 21, Number 4, July 1987
	ARR	R. Remagnino, A. Baumberg, T. Grove, D. Hogg, T. Tan, A. Worrall, and K. Baker, "An integrated traffic and pedestrian model-based vision System". Proceedings of BMVC97, Vol. 2, pp. 380-389, 8, September, 1997
	ASS	W. Ribarsky, T. Wasilewski, and N. Faust, "From Urban Terrain Models to Visible Cities", IEEE Computer Graphics & Applications, Vol. 22, No. 4, 2002
	ATT	C. Ridder, O. Munklet, and H. Kirchner, "Adaptive background estimation and foreground detection using Kalman-filtering". ICRAM'95, pp. 193-199, 1995
	AUU	M. Segal, C. Korobkin, R. Van Widenfelt, J. Foran, and P. Haeberli, "Fast shadows and lighting effects using texture mapping", SIGGRAPH '92, pp. 249-252, 1992
	AVV	J. R. Spann and K. S. Kaufman, "Photogrammetry using 3D graphics and projective textures", IAPRS 2000, Vol. 33
	AWW	C. Stauffer, W.E.L. Grimson, "Adaptive background mixture models for real-time tracking" CVPR 99, Vol. 2, pp. 246-252, June 1999
	AXX	H. Tao, H. S. Sawheny, R. Kumar, "Dymanic layer representation with applications to tracking", Proc. IEEE conf. on Computer Vision and Pattern Recognition, CVPR 2000, Vol. 2, pp. 134-141, June 2000
	AYY	S. J. Teller and C. H. Seouin, "Visibility preprocessing for interactive walkthroughs", SIGGRAPH '91, pp. 61-69, 1991
	AZZ	S. You, J. Hu, U. Neumann, and P. Fox, "Urban Site Modeling From LiDAR", Second International Workshop on Computer Graphics and Geometric Modeling CGGM'2002, pp. 579-588, Montreal, CANADA, 2002
	AAAA	S. You, U. Neumann, and R. Azuma, "Orientation Tracking for Outdoor Augmented Reality Registration", IEEE Computer Graphics & Applications, Vol. 19, No. 6, pp. 36-42, Nov. 1999
	ABBB	Z. Zhang, "A flexible new technique for camera calibration", IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 22, No. 11, pp. 1330-1334, 2000
	ACCC	Ulrich Neumann et al., "Augmented Virtual Environments (AVE): Dynamic Fusion of Imagery and 3D Models", Integrated Media Systems Center, University of Southern California
	ADDD	P. E. Debevec, Y. Yu and G. D. Borshukov, "Efficient View-Dependent Image-Based Rendering with Projective Texture-Mapping", 9 th Eurographics Workshop on Rendering, pp. 105-116, 1998
	AEEE	D. Liebowitz, A. Criminisi and A. Zisserman, "Creating Architectural Modeling From Images", EUROGRAPHIC'99, pp. 39-50, 1999
V	AFFF	Foley, J. D., Van Dam, A., Feiner, S. K. and Hughes, J. F., "Computer Graphics: principles and practice", Addison-Wesley, Reading, Massachusetts, 1990
	AGGG	M. J. Zyda and D. R. Pratt, "NPSNET: A Multilayer 3D Virtual Environment Over the Internet", Proceedins of the ACM- 1995 Symposium on Interactive 3D Graphics, 9-12 April 1995, Monterey, California
	AHHH	Cruz-Neira, C., Sandin, D. J. and DeFanti, T. A., "Surround-Screen Projection-Based Virtual Reality: The Design and Implementation of the CAVE" SIGGRAPH'93, 1993
	AIII	B. Curless, and M. Levoy, "A volumetric method for building complex models from range images", SIGGRAPH'96, pp. 303-312, 1996

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06666-156001	Application No. 10/676,377
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Ulrich Neumann et al.	
		Filing Date September 30, 2003	Group Art Unit 2621

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AJJJ	Mark, W. R., Mcmillan, L. and Bishop, G. Post-rendering 3D warping. ACM Symposium on Interactive 3D Graphics, pp. 7-16, 1997
	AKKK	Zhao, B. and Trinder, J., "Integrated Approach Based Automatic Building Extraction", 19 th ISPRS Congress, Book 3B, pp. 1026-1032, Amsterdam
	ALLL	Seresht, M. And Azizi, A., "Automatic Building Recognition from Digital Aerial Images", 19 th ISPRS Congress, Book 3B, pp. 792-798, Amsterdam
	AMMM	Coorg, S. and S. Teller, "Extracting Textured Vertical Facades from Controlled Close-Range Imagery", CVPR, 1999, pp. 625-632
	ANNN	A. Elasksher, J. Bethel, "Building Extraction Using Lidar Data", ASORS-ACSM Annual Conference and FIG XXII Congress, April 22-26, 2002
	AOOO	Haala, N., C. Brenner, "Generation of 3D city models from airborne laser scanning data", the 3 rd EARSEL Workshop on LIDAR Remote Sensing on Land and Sea, Tallinn, 105-112, 1997
	APPP	Suya Y., Ulrich N., Automatic Object Modeling for 3D virtual Environment, Proceedings of NMBIA, pp. 21-26, 1998
	AQQQ	William, H., Saul, A., William, T., and Brian, P., "Numerical Recipes in C", Cambridge University Press, 1992
	ARRR	http://www.cybercity.tv

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	